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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/098,517	03/18/2002	Westley Ashe	ASC-16	6222

7590 06/06/2003  
H. JAY SPIEGEL  
P.O. BOX 444  
Mount Vernon, VA 22121

EXAMINER

ZAVERI, SUBHASH

ART UNIT PAPER NUMBER

2862

DATE MAILED: 06/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/098,517

Applicant(s)

ASHE, WESTLEY

Examiner

Subhash A Zaveri

Art Unit

2862

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-25 and 34-43 is/are allowed.
- 6) ☒ Claim(s) 26-28 and 31-33 is/are rejected.
- 7) ☒ Claim(s) 29-30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### **DETAIL ACTION**

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
2. This application has been filed with informal drawings, which are acceptable for examination purposes only. Formal drawing will be required when the application is allowed. Please note the comments of the draft person on PTO Form 948.

### **ABSTRACT**

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Abstract has more than 150 words, correction is required.

### **Claim Rejections 35 USC §103**

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter, as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. patentability shall not be negated by the manner in which the invention was made.

5. **Claims 26-28 and 31-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ashe (US 6246231) in view of Hansen et al. (US 5767669).

**As to claim 26**, Ashe discloses a transmitter 11 of Fig.2 transmitting a magnetic field Ma, Mb (operating field volume) of Table 1, Fig.5-16 (column 10, line 30-65) in a space 8,9 of Fig.13 to measure position of an object 31 of Fig.4 in the space;

Ashe lacks in showing a coil element that partially surround the transmitter. Hansen et al. is cited to show the coil element 17' of Fig.4-5. with comparator cx of Fig.4 (column 10, line 39-61) configuration to reduce the magnetic field distortion (eddy current distortion) as shown in Figs. 4-5 (column 11 and 12, line 5-65). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include this type of configuration of Hansen et al. in Ashe system to provide efficient and high sensitivity detectable technique for detecting magnetic field of the metal object present in the environment with free of the distortion;

Ashe lack in showing concurrently activation of a coil system. Hansen et al. is cited to show this concurrent activation of the coil system 17' of Fig.4-5 with comparator cx and switch csx of Fig.4 configuration (column 10, line39-61) to reduce the magnetic field distortion (eddy current distortion) as shown in Figs. 4-5 (column 11 and 12, line 5-65). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include this type of configuration of Hansen et al. in Ashe system to provide accurate, efficient detectable system for detecting magnetic field with free of the distortion.

**As to claims 27-28 and 31-33,** Ashe discloses a transmitter 11 of Fig.1 improvement comprises:

the magnetic field includes an electromagnetic field Ma, Mb of Table 1 as shown in Figs. 5-13(column 14, line 5-30);

the transmitter transmits a field to measure position and orientation of the object in six degrees of freedom as shown in Figs.2-13 (column 3,line 1-47);

the transmitter has three mutually orthogonal coils x, y, z of Figs. 2-5 (column 9, line 5-15);

a common driver 21 of Fig.2 for the transmitter and the coil;

the transmitter includes a driver 21 of Fig.2 for the transmitter and a second driver with a one ampere for each of the coil as shown in Figs.2-6 (column 12, line 3-40).

#### **Allowable Subject Matter**

**Allowable Subject Matter**

6. **Claims 1-25 and 34-43** are allowed. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not teach or suggest a compensation coil surrounding a magnetic field permeable attenuator to reduce magnetic field distortions peripheral of the attenuator.

**Claims 29-30** are objected to as being dependent upon a rejected claim but would be allowable if rewritten in independent form. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not teach or suggest a plurality of coils or a coil surrounding a magnetic field permeable attenuator to reduce magnetic field distortions peripheral of the transmitter.

**Prior Art cited**

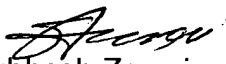
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ashe (US 6528991) is cited to show device for measuring magnetic position and orientation of system.

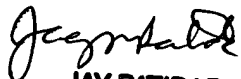
Art Unit: 2862

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Subhash Zaveri whose telephone number is (703) 305 1972. The examiner can normally be reached on Monday-Friday from 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner supervisor, N. Le can be reached on (703) 308-0750. The faxes phone number for this group is (703) 305-3432.

Any inquiry of general nature or relating to the status of this application should be directed to the Customer Service at (703) 308-0596.

  
Subhash Zaveri  
Patent Examiner  
Tech Center 2862  
May 28, 2003.

  
JAY PATIDAR  
PRIMARY EXAMINER